



## **Research Program Specialist 3 (Geographic Information Systems) 7500 – 7420 – 4PB12**

Department(s): Air Resources Board  
California Department of Fish and Wildlife  
Department of Conservation  
Department of Food and Agriculture  
Department of Forestry and Fire Protection (CAL FIRE)  
Department of Motor Vehicles  
Department of Transportation  
Public Utilities Commission

Opening Date: 9/24/14  
Final Filing Date: Continuous  
Type of Examination: Open, multi-departmental

### **EEO**

An equal opportunity employer to all regardless of age, ancestry, color, denial of family and medical care leave, disability, gender identity or expression, genetic information, marital status, medical condition, military and veteran status, national origin, political affiliation, race, religion, sex, or sexual orientation of any person.

### **DRUG-FREE STATEMENT**

It is an objective of the State of California to achieve a drug-free State work place. Any applicant for State employment will be expected to behave in accordance with this objective, because the use of illegal drugs is inconsistent with the law of the State, the rules governing civil service, and the special trust placed in public servants.

### **WHO SHOULD APPLY?**

Applicants who meet the Minimum Qualifications as stated on this bulletin may apply for and take this Training and Experience Evaluation at any time.

Once you have taken the Training and Experience Evaluation, you may not retake it for twelve (12) months.

### **FILING INSTRUCTIONS**

**Final Filing Date:** Continuous

**Where to Apply:** Click the link at the bottom of this bulletin.

### **SPECIAL TESTING ARRANGEMENTS**

If you have a disability and need special assistance or special testing arrangements, contact:

California Department of Human Resources  
Examination and Selection Services Section  
1-866-844-8671  
California Relay Service (7-1-1)  
Telecommunications Device for the Deaf (TTY) (916) 654-6336

TTY is a telecommunications device that is reachable only from phones equipped with a TTY device.

### **SALARY INFORMATION**

RPS 3 (GIS): \$5948.00 - \$7446.00

### **ELIGIBLE LIST INFORMATION**

An open, merged eligible list will be established by the California Department of Human Resources for use by other State departments. The names of successful competitors will be merged onto the eligible list in order of final score regardless of test date. Eligibility expires twelve (12) months after it is established. Competitors must then retake the Training and Experience Evaluation to reestablish eligibility.

### **REQUIREMENTS FOR ADMITTANCE TO THE EXAMINATION**

**NOTE:** All applicants must meet the education and/or experience requirements as stated on this examination bulletin as of the date the test is taken.

### **MINIMUM QUALIFICATIONS**

#### **Research Program Specialist 3 (Geographic Information Systems)**

Experience and education which provide the ability to independently and successfully perform the most complex research and analysis projects involving various types of digital spatial data and techniques and methodologies associated with Geographic Information Systems.

**And**

#### **Pattern 1**

Experience: One year in California state service performing research duties at a level of responsibility equivalent to that of Research Program Specialist 2 (Geographic Information Systems).

**Or**

#### **Pattern 2**

Experience: Five years of progressively responsible technical research experience above the trainee level engaged in the collection, evaluation, compilation and analysis of digital spatial data. (A Doctoral Degree in Geography or a research-oriented field may be substituted for two years of the required experience. A master's degree in the above field may be substituted for one year of the required experience.) (Experience in California state service applied toward this requirement must include one year of experience in a class at a level of responsibility equivalent to Research Program Specialist 2.)

**And**

Education: Graduation from college with any major but with extensive course work in geography or a related field. This education must include a combined total of at least six semester hours in geographic analysis techniques.

### **POSITION DESCRIPTION**

#### **Definition of Series**

Research Program Specialists are responsible for independently planning, organizing, and conducting complicated studies in a variety of areas, requiring knowledge and abilities beyond the journey level, which

affect programs or systems development within the State.

Incumbents in these classes provide expert consultative services on the feasibility, impact, or potential of a variety of State operations, projects, or proposals to interested parties. They advise management, departmental staff, legislative bodies, governmental entities, commissions, and agencies on findings related to the assigned area of research.

Incumbents may direct a small staff on a periodic basis. Special parenthetical requirements must be met in addition to requirements for Research Program Specialist (General). Emphasis is on independent research skills, with a background in a specific occupational area required. The term research as applied to this class series is defined as systematic, critical, intensive investigation directed toward either a more comprehensive knowledge of the subject or for use in the resolution of program-related issues. This does not include library research solely to gather information; preparing and designing plans, projects, and specifications for transportation or construction projects; or scientific research in laboratories.

Entry into this series typically comes at the entry level from college recruitment sources, or through related State classifications at a lower level. Normally each professional discipline area will have its own separate class (es) which are designated by use of one or more of the specified levels followed by a parenthetical designation of the program specialty. Each special program incorporated into this specification will utilize only the class (es) that appropriately describe the type and level of work performed, and the duties and responsibilities assigned to positions which are comparable to the appropriate level(s) described in this series specification.

### **Scope**

Incumbents in this parenthetical specialty serve as the principal departmental staff person possessing knowledge in the techniques and methodologies utilized in Geographic Information Systems. They may perform in a lead capacity on complex research projects involving spatial analysis. They are expected to design and test complex spatial data bases to provide data for departmental program operation and for policy analysis, and to work cooperatively with other professionals concerned with Geographic Information Systems and other advanced digital mapping and database management techniques.

## **EXAMINATION INFORMATION**

### **TRAINING AND EXPERIENCE EVALUATION – Weighted 100%**

The examination will consist solely of a Training and Experience Evaluation. To obtain a position on the eligible list, a minimum score of 70% must be received. An applicant will receive his/her score upon completion of the Training and Experience Evaluation process.

[Click here to preview the Training and Experience Evaluation.](#)

## **KNOWLEDGE AND ABILITIES**

### **Research Program Specialist 3 (Geographic Information Systems)**

#### **Knowledge of:**

- Research design methods to conduct research projects and evaluation studies.
- Data collection methods (e.g., survey, interviews) to ensure the proper use and validation of the research results.
- Appropriate sampling techniques required to produce statistically reliable and valid research results.
- Practices required to ensure and maintain data security, including securely transmitting confidential data.
- Principles and concepts of geography, cartography, geospatial processing, and computer mapping to conduct research and respond to policy questions.
- The principles and procedures of geospatial data collection, management, and analysis to conduct

research and respond to policy questions.

- Advanced automated processes for capturing data and applying quality control procedures to design and implement research projects.
- Enterprise Geographic Information Systems (GIS) principles to ensure efficient data management (e.g., data security, versioning, accessibility, recovery).
- Web-based Geographic Information Systems (GIS) principles to develop, collect, and disseminate geospatial data and services.
- Spatial analysis techniques (e.g., overlay, network analysis, cost surfaces, 3D modeling) to address important policy, program evaluation, and other research questions.
- Programming languages (e.g., Python, Java, C++) and conceptual design tools (e.g., ModelBuilder, Visio) commonly used for automating spatial processes and model development.
- Remote sensing technology (e.g., Lidar, aerial photography, satellite imagery) to capture appropriate geospatial data to perform analyses and support research.
- Descriptive statistical analysis techniques (e.g., mean, median, mode) to formulate conclusions and recommendations.
- Inferential statistical analysis techniques (e.g., t-test, bivariate/multivariate regression analysis) to test research hypotheses and to formulate conclusions and recommendations.
- Geospatial software (e.g., ArcGIS, InterGraph, ArcPad, ERDAS, Google Earth) to capture, analyze and display spatial data.
- Geospatial hardware devices (e.g., Global Positioning System, mobile Geographic Information Systems, plotters, range finders, base stations) to capture, analyze and display spatial data.
- Software used to create visual process flow charts (e.g., Visio, Word).
- Current leadership techniques and their application to ensure effective oversight of project team members.

**Ability to:**

- Conduct a literature review using various resources (e.g., library, internet) to compile information and data from academic journals, research publications, and online sources.
- Develop and/or administer survey instruments (e.g., questionnaires, interview questions, survey forms) to collect information and data relevant to specific research goals and objectives.
- Design and develop research methodologies required to ensure the collection and analysis of appropriate, meaningful, and unbiased data.
- Conduct program evaluation studies including the systematic analysis of program requirements, goals, and outcomes to ensure program effectiveness.
- Identify required data, information, materials, and resources needed to complete a project.
- Present complex quantitative data visually using charts, graphs, tables, and other appropriate methods in order to complete reports and/or develop presentations.
- Use the principles and procedures of geospatial data collection, management, and analysis to conduct research and respond to policy questions.
- Design and implement advanced automated processes for capturing data and applying quality control procedures to design and implement research projects.
- Identify spatial data needs for complex analyses and to assess the adequacy of existing data to meet these needs.
- Verify, validate, and assess the accuracy of geospatial data to meet project needs.
- Utilize web-based Geographic Information Systems (GIS) to display geospatial data and analytical results.
- Design geospatial databases for standardization and usability.
- Present complex quantitative and geospatial data visually using maps in order to complete reports and/or develop presentations and posters.
- Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to research problems.
- Determine how a system or process works and how changes in inputs, operations, and environmental conditions would affect outcomes.
- Use sound research methods and principles to reach conclusions and/or make recommendations.

- Analyze and evaluate the impact of programs, procedures, business processes, and/or policies.
- Analyze statistical data to reach sound conclusions and/or make recommendations.
- Interpret data obtained through formal data gathering techniques (e.g., surveys, questionnaires, and interviews).
- Proofread and edit written materials (e.g., memos, letters, reports, procedures) to ensure that they are accurate and clear.
- Read and comprehend complex or technical information in order to interpret or explain it to others.
- Communicate information clearly and concisely, in writing, to audiences with varying levels of understanding.
- Write reports, policies, and procedures using proper grammar, punctuation, and sentence structure.
- Visually present flow charts to convey process representations using various tools and methods (e.g., Visio, Word).
- Verbally communicate with others to convey information effectively.
- Use geospatial software (e.g., ArcGIS, InterGraph, ArcPad, ERDAS, Google Earth) to capture, analyze and display spatial data.
- Apply current leadership techniques to ensure effective oversight of project team members.
- Appropriately delegate work to project team members to ensure work projects are completed on time and within budget.

### VETERANS' PREFERENCE

Veterans' Preference will be granted for this examination. Effective January 1, 2014, in accordance with Government Codes 18973.1 and 18973.5, whenever any veteran, widow or widower of a veteran, or spouse of a 100 percent-disabled veteran achieves a passing score on an open examination, he or she shall be ranked in the top rank of the resulting eligibility list. This section shall not apply to any veteran who has been dishonorably discharged or released.

### CAREER CREDITS

Career Credits **will not** be added to the final score for this exam, because it does not meet the requirements to qualify for Career Credits.

### CONTACT INFORMATION

If you have any questions concerning this examination bulletin, please contact:

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### GENERAL INFORMATION

**Applications are available** at [www.jobs.ca.gov](http://www.jobs.ca.gov) and local offices of the Employment Development Department.

**If you meet the requirements** stated on this examination bulletin, you may take this examination, which is competitive. Possession of the entrance requirements does not assure a place on the eligible list. Your performance in the examination described on this bulletin will be rated against a predetermined job-related rating, and all candidates who pass will be ranked according to their scores.

**The California Department of Human Resources** reserves the right to revise the examination plan to better meet the needs of the service, should the circumstances under which this examination was planned change. Such revision will be in accordance with civil service laws and rules, and all competitors will be notified.

**Candidates needing special testing arrangements** due to a disability must mark the appropriate box on the application and contact the testing department.

**Hiring Interview Scope:** In a hiring interview, in addition to the scope described in this bulletin, the panel will consider education, experience, personal development, personal traits, and fitness. In appraising experience, more weight may be given to the breadth and recency of pertinent experience, and evidence of the candidate's ability to accept and fulfill increasing responsibilities than to the length of his/her experience. Evaluation of a candidate's personal development will include consideration of his/her recognition of his/her own training needs; his/her plans for self-development; and the progress he/she has made in his/her efforts toward self-development. For more information, you may refer to the classification specification at <http://www.calhr.ca.gov/state-hr-professionals/pages/7418.aspx>.

**General Qualifications:** Candidates must possess essential personal qualifications including integrity, initiative, dependability, good judgment, the ability to work cooperatively with others, and a state of health consistent with the ability to perform the assigned duties of the class. A medical examination may be required. In open examinations, investigation may be made of employment records and personal history, and fingerprinting may be required.

**Eligible Lists:** Eligible lists established by competitive examination, regardless of date, must be used in the following order: 1) sub-divisional promotional, 2) departmental promotional, 3) multi-departmental promotional, 4) service-wide promotional, 5) departmental open, and 6) open. When there are two lists of the same kind, the older must be used first. Eligible lists will expire in one to four years unless otherwise stated on the bulletin.

**Veterans' Preference:** Effective January 1, 2014, in accordance with Government Codes 18973.1 and 18973.5, Veterans' Preference will be awarded as follows: 1) Any veteran, widow or widower of a veteran, or spouse of a 100 percent disabled veteran, who achieves a passing score in an entrance examination, shall be ranked in the top rank of the resulting eligibility list. Any veteran who has been dishonorably discharged or released is not eligible for Veterans' Preference. 2) An entrance examination is defined, under the law, as any open competitive examination. And 3) Veterans' Preference is not granted once a person achieves permanent civil service status.

Veteran status is verified by the California Department of Human Resources (CalHR). Directions to apply for Veterans' Preference are on the Veterans' Preference Application (Std. Form 1093), which is available at <http://jobs.ca.gov/Job/VeteransInformation>, and the Department of Veterans Affairs.

## **TAKING THE EXAM**

**When you click the link below, you will be directed to the Training and Experience Evaluation. At the end of the Training and Experience Evaluation, it will be instantly scored.**

[Click here to go to the Training and Experience Evaluation.](#)